

1 **CLAIMS**

2 What is claimed is:

3 1. A method of processing video data comprising:  
4 receiving digital video data wherein the digital video data has one pixel or  
5 line resolution of at least 720 and the other pixel or line resolution greater than  
6 576;

7 compressing the digital video data to produce compressed digital video; and  
8 transmitting and/or storing the compressed digital video data.

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10 2. The method of claim 1, wherein the receiving receives the digital  
11 video data through a digital serial interface.

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13 3. The method of claim 2, wherein the digital serial interface has a  
14 SMPTE specification.

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16 4. The method of claim 3, wherein the SMPTE specification is SMPTE  
17 292M.

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19 5. The method of claim 3, wherein the SMPTE specification is SMPTE  
20 259M.

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22 6. The method of claim 1, wherein the digital video data has a  
23 resolution of 1280 pixel by 720 line.

1           7.     The method of claim 1, wherein the digital video data has a  
2 resolution of 1920 pixel by 1080 line.

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4           8.     The method of claim 1, wherein the digital video data has a color  
5 sampling format of 4:2:2.

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7           9.     The method of claim 1, wherein the digital video data has a color  
8 sampling format of 4:2:0.

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10          10.    The method of claim 1, wherein the receiving receives the digital  
11 video data from a digital camera.

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13          11.    The method of claim 1, wherein the receiving receives the digital  
14 video data from a telecine.

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16          12.    The method of claim 1, wherein the receiving receives the digital  
17 video data from a recorder.

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19          13.    The method of claim 1, wherein the receiving receives the digital  
20 video data from a network.

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22          14.    The method of claim 1, wherein the compressing compresses the  
23 digital video data using block-based motion predictive coding to reduce temporal  
24 redundancy.  
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1           15. The method of claim 1, wherein the compressing compresses the  
2 digital video data using transform coding to reduce spatial redundancy.

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4           16. The method of claim 1, wherein the compressing compresses the  
5 digital video data using block-based motion predictive coding to reduce temporal  
6 redundancy and using transform coding to reduce spatial redundancy.

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8           17. The method of claim 1, wherein the compressing compresses the  
9 digital video data using a WINDOWS MEDIA<sup>TM</sup> codec.

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11           18. The method of claim 1, wherein the compressing compresses the  
12 digital video data using a compression ratio of at least approximately 50:1.

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14           19. The method of claim 1, wherein the compressing compresses the  
15 digital video data using a compression ratio of at least approximately 100:1.

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17           20. The method of claim 1, wherein the compressing compresses the  
18 digital video data using a compression ratio of at least approximately 200:1.

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20           21. The method of claim 1, wherein the compressing maintains a PSNR  
21 of at least 30 dB.

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23           22. The method of claim 1, wherein the compressing allows for  
24 subsequent decompression and playback of the compressed digital video.

23. The method of claim 22, wherein the subsequent decompression and playback of the compressed digital video produces video of at least DVD quality.

24. The method of claim 22, wherein the subsequent decompression and playback of the compressed digital video produces video having one pixel or line resolution of at least 720 and the other pixel or line resolution of greater than 576.

25. The method of claim 1, wherein the transmitting transmits the compressed digital video data at a data rate of approximately 0.5 Mbps to approximately 10 Mbps.

26. The method of claim 1, wherein the transmitting transmits the compressed digital video data at a plurality of data rates.

27. The method of claim 26, wherein the plurality of data rates are in a range from approximately 0.1 Mbps to approximately 20 Mbps.

28. The method of claim 26, wherein the plurality of data rates are in a range from approximately 1 Mbps to approximately 10 Mbps.

29. The method of claim 1, wherein the transmitting transmits and/or the storing stores at least 5 Gb of data.

30. The method of claim 1, wherein the transmitting transmits and/or the storing stores a video having a total runtime of at least approximately 2 hours.

31. The method of claim 1, wherein the transmitting transmits and/or the storing stores the compressed digital video data to a server.

32. The method of claim 1, wherein the storing stores the compressed digital video data on a tape.

33. The method of claim 1, wherein the storing stores the compressed digital video data on a disk.

34. The method of claim 33, wherein the disk is a DVD disk.

35. The method of claim 1, wherein the transmitting transmits and/or the storing stores the compressed digital data in an advanced systems format.

36. The method of claim 1, wherein the transmitting transmits the compressed digital video data to a DVD recorder.

37. The method of claim 1, wherein the transmitting transmits the compressed digital video data via satellite.

38. The method of claim 1, wherein the transmitting transmits the compressed digital video data via cable.

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1           39. The method of claim 1, wherein the transmitting transmits the  
2 compressed digital video data via a network.

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4           40. The method of claim 1, wherein the transmitting transmits and/or the  
5 storing stores the compressed digital video data in a WINDOWS MEDIA<sup>TM</sup>  
6 format.

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8           41. One or more computer-readable media having computer-readable  
9 instructions thereon which, when executed by a programmable device, causes a  
10 the device to execute requesting of digital video data wherein the digital video  
11 data has one pixel or line resolution of at least 720 and the other pixel or line  
12 resolution greater than 576; compressing the digital video data to produce  
13 compressed digital video; and transmitting and/or storing the compressed digital  
14 video data.

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16           42. A device for producing video data comprising:  
17 a digital serial interface for receiving digital video data wherein the digital  
18 video data has one pixel or line resolution of at least 720 and the other pixel or line  
19 resolution greater than 576; and  
20 a processor configured to structure digital video data, received via the  
21 digital serial interface, in a stream format and/or a file format.

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23           43. The device of claim 42, wherein the processor configured to  
24 structure is further configured to compress digital video data using block-based  
25 motion predictive coding to reduce temporal redundancy.

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2 44. The device of claim 42, wherein the processor configured to  
3 structure is further configured to compress digital video data using transform  
4 coding to reduce spatial redundancy.  
5

6 45. The device of claim 42, wherein the processor configured to  
7 structure is further configured to compress digital video data using block-based  
8 motion predictive coding to reduce temporal redundancy and using transform  
9 coding to reduce spatial redundancy.  
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11 46. The device of claim 42, wherein the processor configured to  
12 structure is further configured to compress digital video data using a compression  
13 ratio of at least approximately 50:1.  
14

15 47. The device of claim 42, wherein the processor configured to  
16 structure is configured to structure digital video data in a WINDOWS MEDIA™  
17 format.  
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19 48. The device of claim 42, wherein the processor configured to  
20 structure is configured to structure digital video data in an advanced systems  
21 format.  
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23 49. The device of claim 42, wherein the processor is further configured  
24 to scale digital video data.  
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1           50.    A method of processing video data comprising:  
2           receiving compressed digital video data wherein the compressed digital  
3 video data has upon decompression one pixel or line resolution of at least 720 and  
4 the other pixel or line resolution greater than 576;  
5           decompressing the compressed digital video data to produce decompressed  
6 digital video; and  
7           displaying the decompressed digital video data.

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9           51.    The method of claim 50, wherein the receiving receives the digital  
10 video data from a network interface.

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12           52.    The method of claim 50, wherein the decompressed digital video  
13 data has a resolution of 1280 pixel by 720 line.

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15           53.    The method of claim 50, wherein the decompressed digital video  
16 data has a resolution of 1920 pixel by 1080 line.

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18           54.    The method of claim 50, wherein the decompressed digital video  
19 data has a color sampling format of 4:2:2.

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21           55.    The method of claim 1, wherein the decompressed digital video data  
22 has a color sampling format of 4:2:0.



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1           56.    The method of claim 50, wherein the decompressing decompresses  
2 the compressed digital video data using information related to block-based motion  
3 predictive coding.

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5           57.    The method of claim 50, wherein the decompressing decompresses  
6 the compressed digital video data using information related to transform coding.

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8           58.    The method of claim 50, wherein the decompressing decompresses  
9 the compressed digital video data using information related to block-based motion  
10 predictive coding and transform coding.

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12           59.    The method of claim 50, wherein the decompressing decompresses  
13 the compressed digital video data using a WINDOWS MEDIA™ codec.

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15           60.    The method of claim 50, wherein the decompressing decompresses  
16 the compressed digital video data using a decompression ratio of at least  
17 approximately 1:50.

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19           61.    The method of claim 50, wherein the decompressing decompresses  
20 the compressed digital video data using a decompression ratio of at least  
21 approximately 1:100.

22  
23           62.    The method of claim 50, wherein the decompressing decompresses  
24 the compressed digital video data using a decompression ratio of at least  
25 approximately 1:200.

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2       63.    The method of claim 50, wherein the decompressing maintains a  
3 PSNR of at least 30 dB.

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5       64.    The method of claim 50, wherein the displaying displays video of at  
6 least DVD quality.

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8       65.    The method of claim 50, wherein the receiving receives the  
9 compressed digital video data at a data rate of approximately 0.5 Mbps to  
10 approximately 10 Mbps.

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12       66.    The method of claim 50, wherein the displaying displays a video  
13 having a total runtime of at least approximately 2 hours.

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15       67.    The method of claim 50, wherein the receiving receives the  
16 compressed digital video data from a DVD disk.

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18       68.    The method of claim 50, wherein the receiving receives the  
19 compressed digital data in an advanced systems format.

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21       69.    The method of claim 50, wherein the receiving receives the  
22 compressed digital video data via satellite.

23  
24       70.    The method of claim 50, wherein the receiving receives the  
25 compressed digital video data via cable.

1  
2 71. The method of claim 50, wherein the receiving receives the  
3 compressed digital video data in a WINDOWS MEDIA™ format.  
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5 72. The method of claim 50, wherein the displaying displays the  
6 decompressed digital video data on a lenticular display.  
7

8 73. One or more computer-readable media having computer-readable  
9 instructions thereon which, when executed by a programmable device, causes a  
10 the device to execute requesting of compressed digital video data wherein the  
11 digital video data has one pixel or line resolution of at least 720 and the other pixel  
12 or line resolution greater than 576; decompressing the digital video data to  
13 produce compressed digital video; and displaying the decompressed digital video  
14 data.  
15

16 74. A transportable storage medium storing at least 5 Gb of compressed  
17 digital video data wherein decompression and playback of the compressed digital  
18 video data results in DVD quality video having one pixel or line resolution of at  
19 least 720 and the other pixel or line resolution greater than 576.  
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21 75. The transportable storage medium of claim 74, further comprising  
22 compressed audio data.  
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1           76. The transportable storage medium of claim 74, wherein the  
2 compressed digital video data is generated from digital video data having one  
3 pixel or line resolution of at least 720 and the other pixel or line resolution greater  
4 than 576.

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6           77. A device comprising an encoder configured to encode digital video  
7 data having one pixel or line resolution of at least 720 and the other pixel or line  
8 resolution greater than 576 at a rate of approximately 0.1 Gbps per GHz of  
9 processor speed to produce encoded digital video.

10  
11           78. A device comprising a decoder configured to decode encoded digital  
12 video at a rate of 0.4 Gbps per GHz processor speed, wherein the rate is based on a  
13 final video display format and wherein the final display format has one pixel or  
14 line resolution of at least 720 and the other pixel or line resolution greater than  
15 576.